Remarks

Claims 5, 9 and 17 are amended and claims 18 and 19 are added. Claims 2 to 10 and 12 to 19 are pending in this application of which only claims 17 and 18 are in independent form.

The specification was objected to as failing to provide a proper antecedent basis for the term "a remainder" previously in claim 17. Claim 17 is amended to substitute the term -- mid section -- therefor. The disclosure is amended on page 5 to incorporate this term.

The claims were objected to because the phrase "the turns" should be changed to -- turns -- in line 3 from the end of claim 17. Claim 17 is corrected herein as suggested by the Examiner.

Claim 5 was rejected under 35 USC 112, second paragraph, because the phrase "a range of approximately greater than one turn to four turns" is indefinite. Claim 5 is amended herein to correct this indefiniteness and should now be acceptable.

Claim 17 was rejected under 35 USC 102(b) as being anticipated by Clarke et al. The following will show that claim 17, as amended, patentably distinguishes the applicants' invention over this reference.

Before discussing the applied references, applicants believe that it would be helpful to first briefly review their invention.

Claim 17 defines an antivibration element wherein the spring stiffness changes also under a load perpendicular to the

longitudinal axis of the coil spring. This is of decisive significance for the use of the antivibration element in portable handheld work apparatus because here, deformations of the coil spring occur in all directions and an increased stiffness of the antivibration element is to be achieved in all load directions.

Claim 17 is amended herein to more carefully define the play (b) between the coil spring and the base of the helically-shaped guide slot and that this play (b) increases with increasing distance from the end section. The pertinent clause of claim 17 is set forth below and supplemented with reference numerals so that it can be easily associated with the drawings:

> "said helically-shaped guide slot (9) having a base (15) and said transition section (11) being guided in said guide slot (9) with a first play (b) to said base (15) measured in radial direction with said first play (b) increasing with increasing distance from said end section (7);" (parenthetical numerals added)

Thus, from FIG. 3, it can be seen that over the transition section 11 of the coil spring, the distance (a) of the slot base 15 to the longitudinal axis 13 decreases to the distance (a'). Accordingly, the play (b) correspondingly increases over the length of the transition section 11 with increasing distance from the end section 7 in the direction of the longitudinal axis. The antecedent basis for the above feature and limitation of claim 17 can be found on page 5, lines 28 to 30, of the applicants' disclosure.

Claim 18 is added to provide an additional independent definition of the invention and this claim includes the feature

and limitation of:

> "said transition section (11) having a second play (c) to said first flank (16) in said axial direction and a third play (d) to said second flank (17) also in said axial direction with said plays (b, c, d) becoming overcome during said deformation under load in a direction perpendicular to said longitudinal axis (13) so as to permit the turns of said transition section (11) to lie at least in part against said guide slot (9) thereby increasing the stiffness of said coil spring (2)." (parenthetical numerals added)

This claim recites that the plays (b, c, d) are overcome when there is a deformation of the coil spring in a direction perpendicular to the longitudinal axis 13 of the coil spring 2. The antecedent basis for this feature and limitation can be found in the applicants' disclosure, for example, at page 7, lines 11 to 13 and 27 to 29. The longitudinal center axis 24 of the guide member 3 corresponds to the longitudinal axis 13 of the coil spring as shown in FIG. 2.

Both claims 17 and 18 are directed to an antivibration element wherein an increase of the spring stiffness results also during a deformation of the coil spring perpendicular to the longitudinal axis of the coil spring. Nowhere in the applied references is there any hint which could lead our person of ordinary skill to arrive at this feature and limitation of both claims 17 and 18.

Referring now to Clarke et al, a coil spring is shown having ribs 12 between which the turns of the coil spring are held. Clarke et al achieves a variable spring stiffness under load in that these ribs 12 have less and less thickness toward the mid

section of the coil spring. The distance of the coil spring to the base of the slot is, however, constant over the entire length of the guide piece 11 and this distance is comparatively large. Accordingly, for a load on the coil spring of Clarke et al perpendicular to the longitudinal axis of the coil spring, a spacing between the coil spring and the base of the slot would remain also for a bending of the coil spring relative to the guide member and no contact engagement of the coil spring against the base of the slot would occur. Accordingly, for a deformation in a direction perpendicular to the longitudinal axis of the coil spring, no change of the spring stiffness of the coil spring of the antivibration element results in the embodiment shown in this reference.

In Clarke et al, as well as in the secondary reference, Newman, the distance of the coil spring to the base of the guide slot is constant over the entire length of the guide member. A hint as to how a change of the spring stiffness can be achieved for a deformation of the antivibration element perpendicular to the longitudinal axis of the coil spring is nowhere suggested in these references.

Claims 4 and 5 were rejected under 35 USC 103(a) as being unpatentable over Clarke et al in view of Lucas.

With respect to this rejection, applicants note that claim 4 relates to the number of turns in the end section of the coil spring; whereas, claim 5 relates to the number of turns in the transition section. According to claim 17, the end section is held on the guide member and the transition section is arranged with play with respect to the guide slot.

Lucas is directed to a spring for a cushion seating and is therefore a completely different spring arrangement than that disclosed by the applicants. In Lucas, coil springs are held at their ends and, between these ends, the coil spring is not guided. At column 7, lines 15 to 17, of this reference, the suggestion is made that the spring characteristic can be changed with the change of the free turns. However, Lucas provides no suggestion as to how large the number of turns should be which are to be secured tightly on a guide member in order to achieve a reliable fixation of the coil spring. A fixation of this kind is not provided in Lucas. Also, there is no suggestion in Lucas as to how many turns of a coil spring should be arranged on a guide with play in order to achieve an adequate adaptable spring stiffness, that is, an adequate change of the spring stiffness under load. This is so because Lucas does not even suggest the support of turns of the coil spring with play on a guide member.

In view of the above, it is not seen how Lucas can be combined with Clarke et al to arrive at the applicants' invention as set forth in claims 4 and 5.

Claims 8 to 10, 12 and 16 were rejected under 35 USC 103(a) as being unpatentable over Clarke et al in view of Griswold.

With respect to Griswold, applicants respectfully note that the subject matter of this reference has nothing to do with the applicants' invention. Griswold discloses no antivibration element; instead, a coil spring is disclosed which holds a valve stem in a closed position. The valve is opened by the cam 28 against the force of the spring. The coil springs 33 and 34 function to ensure that the valve is guided on the cam contour

and carries out the movement thereof and does not remain in the open position. The avoidance of vibrations which are touched upon in the second and third paragraph of Griswold (page 1, lines 5 to 17) relates to the natural frequency of the coil springs. The coil springs 33 and 34 therefore do not define an antivibration element. A vibration decoupling between the upper end of the coil spring, which is held on the cylinder housing of the engine, and the lower end of the coil spring, which is connected to the valve stem, is not possible for the reason that the valve stem is guided in the guides 16 of the engine housing and therefore all vibrations of the engine housing are transmitted to the valve stem.

For the reasons advanced above, Griswold cannot be applied as a reference for evaluating the novelty of the applicants' invention.

Claims 12 to 15 were rejected under 35 USC 103(a) as being unpatentable over Clarke et al in view of Newman and Kalister.

Kalister too does not disclose an antivibration element; instead, this reference discloses a torsion spring for a door so that this reference too is not appropriate for evaluating the novelty of the applicants' invention. Kalister can provide our person of ordinary skill with no indication as to how our person of ordinary skill should arrive at the applicants' embodiment set forth in claim 12. According to column 2, line 60, to column 3, line 2, the cone 10 of this reference includes no guide in the form of a helically-shaped guide slot as required by claim 17; rather, Kalister discloses guides in the form of first and second pluralities of semicircularly-shaped ridges (22, 27) whose

distance to the longitudinal center axis of the cone 10 first increase and then decrease. According to column 3, lines 17 to 19, of this reference, the ridges (22, 27) lie in planes perpendicular to the longitudinal axis of the cone 10 so that no helically-shaped path or slot can result. The distance of the base of the slot formed by the ridges to the longitudinal center axis of the cone 10 therefore does not decrease with increasing distance from the end section; instead, over each passage around the circumference, the distance of the base of the slot to the longitudinal center axis increases over a quarter turn and thereafter reduces over a quarter turn, and over the next quarter turn again increases and so on.

Accordingly, it can be seen that there is no suggestion in Kalister which would enable our person of ordinary skill to hit upon the idea of reducing the distance between the base of the guide slot and the longitudinal center axis over the length of the transition section or, stated otherwise, increasing the first play (b) with increasing distance from the end section as required by applicants' claim 17.

In view of the above, Kalister cannot be combined with the remaining references to arrive at the applicants' invention as set forth in claim 12.

In view of the foregoing, applicants submit that claims 2 to 10 and 12 to 19 should now patentably distinguish the applicants' invention over the applied references and be allowable.

Reconsideration of the application is earnestly solicited.

Respectfully submitted,

Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

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